

**MINUTES  
FOR THE MEETING OF THE  
COMMISSION ON WATER RESOURCE MANAGEMENT**

**DATE:** August 29, 2019  
**TIME:** 9:00 am  
**PLACE:** J. Walter Cameron Center-Auditorium  
95 Mahalani Street  
Wailuku, Hawai'i 96793

Chairperson Suzanne D. Case called the meeting of the Commission on Water Resource Management to order at 9:01 a.m.

**MEMBERS:** Ms. Suzanne Case, Mr. Neil Hannahs, Mr. Wayne Katayama,  
Mr. Keith Kawaoka, Mr. Paul Meyer

**STAFF:** Deputy M. Kaleo Manuel, Dean Uyeno, Rebecca Alakai,  
Nicholas Ing, Dr. Ayron Strauch, Neal Fujii, Rae Ann Hyatt

**COUNSEL:** Ms. Linda Chow

**EXCUSED:** Dr. Kamana Beamer

**OTHERS:** Robert DeRobelo, Yvonne Izu, Mark Vaught, Marti Buckner,  
Meredith Ching, David Schulmeister, Wili Wood, Chad Fukunaga,  
Kaumakani Quipotla, Sean O'Keefe, Shelly Stevens, Linda Nye,  
Bobby Mason, John Duey, Ekolu Lindsey, Shay Hodfe,  
Alohilani Hue Sing, Lucianne De Naie, Ka'apuni Aiwohi,  
Tiare Lawrence, Rosemary Lindsey Duey, Hōkūao Pellegrino

All written testimonies submitted at the meeting are filed in the Commission office and are available for review by interested parties.

**A. APPROVAL OF MINUTES**

July 16, 2019

**MOTION: (KATAYAMA/HANNAHS)**  
**To approve the minutes as submitted**  
**UNANIMOUSLY APPROVED**

**B. ACTION ITEMS**

**1. Request and Delegation of Authority to Chairperson to Enter into a Joint Funding Agreement with U.S. Geological Survey for Statewide Hydrologic Data Collection and Water Resource Monitoring for Federal Fiscal Year (FFY) 2020**

PRESENTATION GIVEN BY: Dr. Ayron Strauch

Dr. Strauch – presented the submittal item and touched on the background of the hydrologic data collection and monitoring which is mandated to the Commission through the State Water Code. Currently Commission staff monitors 35 observation wells and maintains 33 stream gaging stations. Each county's water supply department also monitors dozens of observation wells and reports to the Commission. There will be 7 new monitoring stations throughout the State added: three on Kaua'i, one on O'ahu, two on Moloka'i, and one on Maui. Most of these stations were previously discontinued due to funding shortfalls.

QUESTIONS

Commissioner Hannahs – does the list fully satisfy our current program requirements and priorities or is it restrained by budget?

Dr. Strauch – it's still restrained by budget.

Commissioner Hannahs – are there things we should be doing or not doing you think are important?

Dr. Strauch – we have funding to add 7 gaging stations in this FFY. The USGS is working on a comprehensive hydrological monitoring program for the State of Hawai'i which includes surface water needs and there are dozens more stations that would need to be funded. We worked with staff to narrow it down to the top 7. This assumes that in-house staff would maintain many new stations moving forward which is quite time consuming for us too.

Commissioner Hannahs – but these align as well as it can with our priorities?

Dr. Strauch – yes

PUBLIC TESTIMONY

Ms. Cecilia Rose Riley – what we really need are the kānaka maoli to be on their land and in those areas to monitor water themselves. What (staff) is trying to do the job of six people, needs 600. There are so many details and much that needs to be understood and monitored all the time. The only way to do that properly is to have them on their land and to do that monitoring. Thank you.

Mr. John Duey – September 12, 2016 the stream gage went out in Wailuku River that gages the water above the intake; I've been trying to find out when that's going back in? Last I heard from USGS, it was going to be re-installed in February of this year, and it's still not there yet, so I'm curious as to who will do it and when? It is important to know what the stream flow is and what is used to be. Thank you.

Dr. Strauch – it's on USGS radar of things to do and because they're moving the gage to a new location, they need new permitting because its' in a conservation district on State land and a lot of hurdles to get through, but they're moving forward.

Commissioner Hannahs – is USGS experiencing any short-falls or cutbacks?

Dr. Strauch – I believe they've hired (4) new staff in the past year and a half

Commissioner Hannahs – they're full partners still – they're not cutting back the ability to monitor and contribute to these agreements?

Dr. Strauch – correct, nothing has changed on that.

Commissioner Meyer – that's important, I'm sure you're going to follow it.

Dr. Strauch – definitely.

Chair Case – asked for a motion

**MOTION: (MEYER/HANNAHS)**

**To approve B-1 as submitted**

**UNANIMOUSLY APPROVED**

**2. Approval of a Stream Diversion Works Permit Application (SDWP.4950.6) by East Maui Irrigation Company to Remove and Abandon 11 Diversions (Category 3) on the Honopou, Hanehoi (Puolua), and Pi'ina'au (Palauhulu) Streams, East Maui Irrigation System, East Maui, Hawai'i; TMK: Various**

PRESENTATION GIVEN BY: Dean Uyeno

Mr. Uyeno – presented the submittal item and gave an overview of the Honopou, Hanehoi, and Pi'ina'au Stream diversions permits and provided a brief summary of the Alexander & Baldwin (A&B) / East Maui Irrigation Company (EMI) contested case hearing timeline and the Kalo (Taro) and Community Streams excerpt from the D&O page 262; with the goal to return free flowing water with no upstream diversions to all streams, which have historically supported significant kalo cultivation. An overview was given of the (11) diversions along with the proposed actions (projects) to be taken on by EMI and read through other division(s) comments to the project proposals and the protection of the native aquatic species in the streams. Also briefed on staff recommendations for each diversion and gave review on agency comments and that the action triggers an Environmental Assessment pursuant to HRS Chap. 343 because 7 of the 11 diversions are located within the Conservation District, and 5 is located on State lands. The actions are not anticipated to have an impact to traditional and customary practices in the watershed area. #11 on the recommendation needs to be corrected to say "concrete open channel overpass" instead of: to construct a stream overpass. Request Commission approval of recommendations.

## QUESTIONS

Commissioner Hannahs – did you say one of the recommendations was an error?

Mr. Uyeno – yes #11 is the only one; instead of piping it should be a concrete open channel overpass.

Chair Case – he has to make changes at least to #4, 5 & 6.

Mr. Uyeno – #1 stays as is, a concrete pipe; #4, 5, 6, & 7 – instead of concrete pipe, it should be HDPE (high-density polyethylene) on the second line; #9 on the second line should be instead of concrete pipe, it should be HDPE; and #11 should be to construct a concrete open channel overpass over the Lowrie Ditch as proposed by EMI.

Commissioner Meyer – is there a difference between the concrete pipe and the other pipe in terms of the ability of critters to navigate through and grab onto the pipe?

Mr. Uyeno – concrete would be better as well in a lot of the tributaries we don't anticipate there to be fish migrating upstream, because there are rather small tributaries, their habitat is essential mud or dirt. We did want to try and diversify the construction a little to detect if we see any upstream migration, which is one reason to put in the concrete channel overpass for that and HDPE for the others.

Chair Case – you do anticipate being able to track how these various approaches work overtime?

Mr. Uyeno – yes, we could. Essentially, at this point nothing's been found, and we could go back in the future as we need to and survey.

Chair Case – so nothing is found there now?

Mr. Uyeno – we have not surveyed it yet but could.

Chair Case – yes, we need to take this opportunity. I know you got stream monitoring started in some areas, obviously can't get to every area; do we have potential for understanding which of these approaches are fine, based on the low-flow data amongst habitat, it's not an area we thought would be a high priority for restored stream conditions; do we have potential for learning from these different variations?

Mr. Uyeno – there's a potential; I would note that it will be physically challenging because the channels are so small just to get into these little tributaries; their coming out of hau thickets through a very small window, so physically getting in there to survey is very difficult, but it is possible.

Dr. Strauch – we're working with Division of Aquatic Resources (DAR) to develop an eDNA monitoring program so that we can identify presence or absence of native species (all variety) in streams across the State; eDNA analysis involves very little physical fieldwork

that just requires a water sample so you don't have to do the intensive visual surveys that are required for more comprehensive density and population analysis. We can work with DAR to sample these specific streams; as the recommendation noted, these tributaries are very small they don't provide as much in a way of habitat; so it's unlikely that we would detect these species, but it is easy to do moving forward with these new technologies.

## PUBLIC TESTIMONY

Ms. Meredith Ching (A&B) <Applicant> – I also have with me Sean O'Keefe whom is the Director of Environmental Affairs and handles our permitting, also Grant Nakama and Mark Vaught from EMI. When we made the commitment to permanently abandon the diversions in the (7) taro streams we wanted to make sure to get that water back into the streams as soon as possible. We immediately acted to put whatever water back we could by opening and closing gates to redirect the water back to the streams, rather than into the ditch. Our estimate, it achieved 90-95% of the water return. The last 5-10% was difficult with the type of construction work that is still needed to be done. That triggered reviews and possible permitting by County, State and Federal levels. There were 70 diversions in total that need to be modified and permanently abandoned which all varies so the permitting got complex. We really want to thank your staff who has been working with us the past few years to help us through this permitting; and as Dean mentioned we have four categories, we're on Category 3 right now. Category 1 we were given the go ahead in October 2018, to start work on the first 15 diversions and to date we made modifications to 10; and the next five we expect to complete by the end of next month. The second category required BMPs be developed and passed by DOH and is currently in discussions. That brings us to today, requests for the 11 diversions. We appreciate the analysis that was done by staff and concur with the recommendations and amendments made by Dean. We did want to note for the Commission that the use of open channels rather than pipes does introduce the risk that the water might go back in the ditch instead of the stream, which is not what we want; so that's why we proposed in limited situations where we know it was going to be frequent low-flow. We would make sure there wide enough and the wing-walls are high enough, so water doesn't go back in the ditch but in the stream as intended. Secondly, if the Commission approves the recommendation, the next step is to develop more detailed plans which need to be passed by USACE and OCCL again to be sure the initial approvals they gave, they feel comfortable with it. With regards to staff recommendation on page 44 regarding the County of Maui Planning Department to comply with their concerns, similarly with the USFWS, we are in consultations about appropriate types of surveys that are needed to be done for compliance. We to are anxious to complete this commitment and to permanently abandon and stop diverting the stream(s), and then we would proceed with the rest of the Commissions non-taro stream, IIFS compliance matters from 2018 decision.

Commissioner Meyer – any cost estimates of the total project?

Mark Vaught, (Manager – EMI) – I don't have any preliminary cost estimates but, some of the size of the projects like Puolua we would contract that out and would be in the \$100-200K range. Much of the other work we can undertake ourselves and would be limited to our operating costs (plus materials). The Haiku ditch at Honopou, is going to be massive and would be a combination of we'll do some of the work and the rest will be contracted.

Lucienne De Naie (Conservation Chair, Sierra Club Maui) – I've testified many times about the stream restoration. Sierra Club did submit comments on the 11<sup>th</sup> on Category 3&4 and stand by those comments. We're very happy to see restoration efforts proceed, however we strongly believe along with DAR and other agencies that some of these streams are being "restored" in a way that allows water with very little or difficult connectivity for our native stream species with not just fish, but 'ōpae and hihiwai as well. There seems to be no second phase on how we're going to fix this. We sent a picture of the diversion at Haiku ditch (H3) at Hanehoi stream, where all the water is being diverted through a small 12-18 inch chute, whereas the whole damn could be removed and wouldn't hurt the Haiku ditch. It would avoid stagnant water and allow the full stream habitat to be used by the stream species. There's no discussion about it; it's like we got our grate sealed, we're done. We're grateful the grate is sealed but there's the other part; to allow a living cultural practice on this stream for many Hawaiians that live in our neighborhood. I've heard stories of people gathering 'ōpae (like Skippy Hau does) and transferring them from pool to pool, to show their kids what's supposed to live in the stream. We ask like DAR does, the need for the next stage of this contemplated so that there's a real stream restoration. To restore means to "make like it was before"; not just put water in on one side where its eroding the dirt bank. The other concern is Puolua Stream, which is a complex restoration. I have a map here and you can see at this point (red dot on map) it makes a bend, so if you send water straight across its not going into a stream, it has to be a natural channel; I'm happy to hear a pipe will be installed. There's also complexities that the land adjoining belongs to the Ernstberg heirs. They lived on Maui until the turn of the century and one of the heirs has returned and has interest in farming kalo there. They meet with Ernie Shoop who is a kalo grower downstream below the Hana Highway; I don't think anyone has made any effort to talk with any of these folks who have a property interest. Ernie has maintained the intake so he can get water to his kalo patch for 20+ years. Before investing \$100K with the USACE; Mr. Schupp does not have internet and lives on the taro patch with no electricity and does not get these type of notices; I try to keep him informed. He has seen the plan last year when it first came out and I know Ernie definitely had some comments; I would suggest to EMI that he be consulted and included; he knows the Puolua stream very well and created his little channel so that it could stay open. Here's a picture of how the stream is now and you'll note there's a narrow channel that leads to the bypass pipe; I don't know if that channel is going to be removed; its still there under present flows; then there's a rough rock dam that funnels things into that channel. It's not an ordinary stream and needs more thought as EMI and staff has pointed out. We depend on it and is the most reliable flow into Hanehoi stream. When Hanehoi is dry, Puolua puts water into it; under drought conditions with streams restored, Puolua has a big role for stream life and availability of water in Hanehoi stream; so we urge direct community consultation as the average small citizen may not get the word until its late but they have valuable information. Between 2008-2010, CWRM staff worked closely with our community and notify us when they did measurements and come out and hear about conditions and ideas from the community which was a beneficial relationship and appreciated and we hope that be restarted again. We did invite Mahi Pono when they first took over EMI. I also want to say the Honopou gate at Haiku stream, people are concerned if that is completely sealed when the big stream waters come, their bridge will be wiped out; and that's the only way into their community. We need to work out a give and take on some of these projects; it's like you said Chair Case, we still are on a learning curve of what's going to work; so we appreciate those considerations

on your recommendations, the community consultations for Honopou, Puolua, Hanehoi and looking at what's the next step of restoring more connectivity for the stream life to happen. These streams were a valuable part of an ancient infrastructure for the Hawaiian people. Thank you.

Commissioner Hannahs – thank you for your assistance on outreach to the stakeholders, was there a specific amendment to the recommendations that you were advocating?

Ms. De Naie – the best we can do now since these plans need to be approved by USACE (as said by Ms. Ching), if we can bring in those parties at this point and make sure what is being recommended will fit traditional knowledge of the place, I think would be most helpful thing suggested for Honopou. The Hanehoi diversion is on your agenda but its already done (the H3); but still that place needs connectivity. There's stagnant water in between rains which is frequent, and there's little way that stream life could migrate under those conditions, even if there's sufficient water upstream – there's a choke point there.

Hokuao Pellegrino (President, Hui o Nā Wai 'Ehā) – First I want to share that there are not only 7 taro farming streams on East Maui, there are many more and many that were historically farmed under the wetland kalo cultivation. They may not be in cultivation today, maybe because of the lack of water on particular streams but, history has shown when we restore the water to these streams, our kuleana taro farmers and native tenants will return back to these lands. I would like to make a few recommendations that EMI/Mahi Pono should come up with a comprehensive monitoring plan that any native, traditional, natural, cultural, archaeological resources are not impacted. Especially when large equipment goes into the valleys, unlike Nā Wai 'Ehā where access to these diversions are easy, East Maui is different. There's no public access or monitoring and that's critical; especially EMI/Mahi Pono mentioned they'll be contracting out some of the work. We saw this with Nā Wai 'Ehā with the restoration of the bank after the 2016 storm, a company from Texas put in 15, 20'x3' pipes and a storm event occurred and these pipes ended up in the ocean and only 9 were found, the rest are still on the reefs. In addition, there is a timeline being shared with community and stakeholders and that it is critically important that there is communication. Hui o Nā Wai 'Ehā has a strong collaboration alliance with Nā Moku o Ko'olau for over a decade. I can tell you first hand that they're in the dark most of the time when it comes to any work being done by EMI/Mahi Pono in that particular region. Leaving concrete and debris in the stream also needs to be monitored; and that instream native species are not impacted during the work. Commission staff needs to closely monitor this is what we're saying, and that Mahi Pono/EMI follow specifications outlined in this permit. In these particular cases where you have old plantation era diversions, it's a take-out system and appreciate the fact there's going to be re-engineering and removal of these systems, we need to keep in mind there are many diversions and Ms. Ching explained there are over 100+ diversions not just in East Maui but multiple in Nā Wai 'Ehā, and these systems were developed to capture all. There's inability for upstream migration for native aquatic species, mauka to makai connectivity, so it's important if this is going to become the model and incorporate 21<sup>st</sup> Century approach to a stream stewardship and management; we encourage you to look at all streams. Mahi Pono/EMI also owns and manage the Spreckels ditch which is one of the oldest diversion systems and if you go there, you'll see it's a take-all and doesn't allow any native aquatic species to migrate upstream. I encourage you to keep that in mind as we move forward with our Nā Wai 'Ehā case as well as East Maui and the fact

you are also looking at West Maui. We need to look at an innovative 21<sup>st</sup> Century approach to stream management, supporting the instream values this Commission strongly upholds amongst us, mahalo nui.

Chair Case – asked for a motion to approve the submittal as amended.

Commissioner Meyer – motion to move that the staff recommendation as amended by Dean, be adopted by the Commission

## DISCUSSION

Commissioner Hannahs – Hōkū, you didn't have any recommended changes to the staff recommendations? Sounded like your thoughts had to do with on-going monitoring and collaborative work and communications?

Mr. Pellegrino – yes, communication with stakeholders and some sort of monitoring plan. Those areas are sensitive archaeological sites; most people and Nā Moku O Ko'olau are not familiar with these areas; especially when large machines go up there. We need this all to well because of Nā Wai 'Ehā, there's no monitoring in the streams. We know the staff is doing a great job and know they're limited but want some type of plan created to ensure monitoring which is critical.

Chair Case – I want to note that item #3 (Exhibit-2) (HRS 174C-71) under the Protection of instream uses: establishes guidelines and does require permits (issued) approved by the Commission for construction or alteration (to establish IIFS and stream protection).

Commissioner Meyer – it's a complicated program with many moving pieces and that the Commission mandated an early start and immediate progress. I want to thank the staff for their work and we should understand this is a work in progress; its very difficult to put four quarters on an extensive project like this and we need to count on the staff and Commission to continue to follow the situation as it evolves and work is completed; it needs understanding and cooperation from all parties.

Chair Case – I appreciate Aquatic Resources and Forestry/Wildlife comments; I know that staff has been listening to them very carefully and that the decision itself was very thoughtful on a stream-by-stream basis; what were the priorities for each stream and level of restoration, and set-up to address the highest priorities overall of the seven streams, and the importance of each individual stream. It was detailed in its analysis and what we have before us, this set of proposed restorations, is based on that. Thank you very much.

*<Chair asked for a vote>*

**MOTION: (MEYER/HANNAHS)**  
**To approve B-2 submittal as amended.**  
**UNANIMOUSLY APPROVED**

## C. FOR INFORMATION ONLY

# **1. Presentation on Existing Water Systems and Uses Related to the Honokōhau, Honolulu, and Honokōwai Streams, West Maui**

PRESENTATION GIVEN BY: Dr. Ayron Strauch

Dr. Strauch – gave a power point presentation and provided a timeline by phases on West Maui from 2010-present. There's statewide IIFS priority areas with West Maui having 3 IIFS phases. There are 2 USGS research studies which help provide analysis of the low-flow characteristics of streams for the studied area. Provided information and background regarding the stream diversions and development tunnels with stream flow estimates. Briefed on the table of current and surface water uses. Briefed on waste complaint received on Honokōhau Ditch and also provided information on proposed (West Maui) development of R1 distribution system. Intakes were damaged during the 2018 tropical storm. in the Honokōhau Intake is not operational, the Honolulu intake is damaged beyond function, and there are still lots of boulders plugging up the Amalu stream intake, but still have 1.2mgd coming out due to the Honokōwai development tunnel (20-B).

DHHL could be a beneficiary of the water transported by the Honokōhau ditch because its available at a high elevation which they have regional development planned parcels in this region which is currently being updated. The registered demands for Honokōhau include landscape irrigation, diversified agriculture and domestic/municipal uses for Kapalua Land Co., DHHL, DWS-Maui, Maui Land & Pine, and Kapalua Water Co. Currently DHHL does not use any water from this system but could use an estimated 2.5mgd after build-out of plans. CWRMs proposal to the County, landowners and stakeholders in region is to put together a management plan that establishes IFS to protect instream uses while allowing water for public trust uses, including drinking supply and DHHL needs, but incorporating R1 availability into the plan; we could essentially double the availability of water.

## **QUESTIONS**

Commissioner Hannahs – what's happening to the MLP ditch, is water still diverted?

Dr. Strauch – the system present can't control how much water is being diverted because the intake is damaged. Pre-tropical storm last year, they were taking enough to get water to MDWS and if more was taken it spilled over into Honokōwai gulch or further down the system. What they're taking is much less than a decade ago.

Commissioner Katayama – what's the horizon for future estimated use?

Dr. Strauch – DHHL state projects estimates into 2031 and MDWS Water Use and Development Plan estimates to 2040

Commissioner Katayama – is it more than a 10-year view?

Dr. Strauch – yes, unknown future but by 2030.

Commissioner Katayama – it seems like the domestic growth is modest

Dr. Strauch – MDWS can answer that better; but they are developing additional groundwater sources; this region is not solely reliant on surface water. I think their facility can treat up to 3.1mgd, 2.5 is a reasonable amount based on their AWUDP.

Commissioner Katayama – is this consistent with the Maui Regional Plan?

Dr. Strauch – I believe so.

Mr. Kawaoka – do you have any cost estimates to do this (R1 system)?

Dr. Strauch – no, it's at the County level

Mr. Kawaoka – right now, the only source from Honokōwai reservoir is from the treatment plant and that service is working? And the pipeline to reservoir Lower field-14 that's in operation?

Dr. Strauch – yes, correct; but lower field-14 is not operable and needs repairs; there's talk at County level to potentially replace the whole thing to increase capacity.

Mr. Kawaoka – and the blending will occur in that?

Dr. Strauch – in field 140 reservoir below the ditch so that you can distribute surface water from the ditch into the reservoir as needed and drop R1 water from the initial holding reservoir, lower field 14 reservoir, as needed.

Mr. Kawaoka – and that will provide Ag water?

Dr. Strauch – DHHL has in total 3.8mgd, full build-out use. The north side alone is 2.5, but Ka'anapali Land leases part of the DHHL parcel south side of the gulch; currently their irrigation needs are met with water diverted from Honokōwai. The water available at field 140 reservoir could be distributed either side of the gulch to meet DHHL or Ka'anapali Land (water) needs.

Mr. Kawaoka – as far as you can tell, all the parties are somewhat agreeing?

Dr. Strauch – there is some optimism

Commissioner Hannahs – what do you anticipate being the hot-spot issues?

Dr. Strauch – funding is a big factor at the County level; what can be done and how fast it can be put in place. Because some infrastructure is on state land, transferring it to the County for management for easement on parts of the system; as DOH regulates R1, the County will be the "operator" and that source would be field 140 reservoir, but would the County invest in distribution infrastructure or would the end users to hook-up to that source? If the latter is the case, KLC would need easement or lease from the State to access portions of the Honokōhau ditch which crosses state land. The whole thing is contingent on MLP upgrading the intake which they are seeking monies for damages from the storm.

Commissioner Hannahs – as complicated as it sounds and looks, it's actually cleaner than that of Kahoma.

Commissioner Katayama – where is the low hanging fruit and given a 10-year build-out, what systems has the stress in terms of water demand?

Dr. Strauch – It's critical to keep as much water as possible in Honokōhau stream. There is a lot of traditional and customary, domestic uses, and supports a lot of native aquatic species. To the extent, the storm already modified the system to restore flow naturally; there has been a new stream channel cut around Aotaki Weir so there's continual mauka to makai flow, but we need an IFS to protect that flow to make sure it remains and meet all the downstream uses. The other is the Amalu intake and development tunnel, these are on state land. There is no current water lease for water taken in this portion of the system, so restoring the water past the confluence of Amalu should be relatively easy.

#### PUBLIC TESTIMONY

Ms. De Naie (Sierra Club Maui) – as a hike leader, I've spent many hours in Honokōwai Valley with Maui Cultural Lands, Ed Lindsey and his 'ohana. Back in the '99 MCL began a restoration project in Honokōwai Valley which was extensive. MCL has permission to work the entire stream and has explored different areas of it. I can't believe that traditionally the stream flowed only intermittently, there's lo'i kalo that's 4-feet high beautifully built of rock, miles of them; it was the breadbasket of Kā'anapali and the chiefs that settled there. My guess is that some stream flowed year-round. People wouldn't have invested in that infrastructure, it is not dry land kalo, there's 'auwai that goes from lo'i to lo'i. It's a magnificent place that lacks water. Recent years there's been some flow. For many years Sierra Club has volunteered (since '99) clearing weeds, planting native plants. Any solution that freed up water would be a benefit to the Hawaiian people. Thousands of people visit Honokōwai Valley as a restoration project probably almost every year because folks come up to do service almost every Saturday, with 20-30 people each time; it's a place that deserves every solution. Working with the R1 makes so much sense and is what used to happen, MLP used to use that water. Honokōhau (stream) really needs to be restored. What an amazing ecosystem with over 1,000 registered lo'i kalo from ancient and traditional times. Nature is speaking if the intakes are being wiped-out; it's like the stream wants to return to its flow again. I really encourage you guys; there might be some push back by the large land owners, but I think a solution can be found that accommodates one water for all. All the streams deserve to have their natural state, thank you.

Mr. Ka'apuni 'Aiwahi – my daughter's name is Pi'imauna my mother's name is Pi'imauna and my grandfather's great-grandmother is buried in Honokōhau, her name is Rose Pi'imauna Pali and her gravestone is there with her name. That is where we trace our family genealogy comes from that valley since the 1800's. We still continue to cultivate lo'i there and I always remember just being there; my grandparents lived there now my mom lives there. We have a small parcel and have and are at the bottom end of the system and because there's such little water we had to reduce the amount what we got that we can grow. Just this water issue really effects how much of my family can really be there. I understand the need to share, but for me I can understand sharing if people could understand how important

it is to our family. I never had the chance to go up to all the diversions; only seen through pictures; I felt that our 'ohana from the valley really wanted to show their Aloha to share the water that was in there. To see the pictures of the water being used and just dumped in these open fields, the dry stream beds, I feel taken advantage of, that we gave so much it was heartfelt for me to see. Just to understand how the amount of resources there affects how much our family can be there because if we could cultivate, we could return more of our family; but if we can only cultivate a little area then it doesn't mean much for my family, my kids, and my cousins who kind of have to fight for who's going to take care that 'aina because it is so small, mahalo.

Commissioner Hannahs – where on the map is your lo'i?

Mr. Ka'apuni 'Aiwohi - it starts on the very bottom of the Honokōhau Stream.

Chair Case – thank you.

Ms. Rosemary Lindsey Duey – I was born and raised on Maui in Lāhaina; and like that young man said, it's amazing what happened to the water in Honokōwai. My family was the last to leave Honokōwai Valley. We used to bathe in the stream of Honokōwai Valley and water was continuous. We had a flood in the valley where we had to climb the mountains to get out of the water of the flood. The most important thing while I was living there; women hate to tell their age and I'm one of them, but I'm 79 years old and my memory is very well, made about what my life was there in Honokōwai. We kids (and I have six brothers and myself) had to maintain our taro patches, and there were water taro patches not dry land. We used to ride a tin boat down that river; I don't know what happened to the water so I can only tell you what I know of my experience living there. The house we lived in the plantation moved it out to Honokōwai and the Mahuna's were the people that lived in it after my father transferred from Honokōwai Valley to Lāhaina (he worked for the mill at the time) and was one of the people who dug the well way up; it was a ditch being dug by steam engine; so there was water running in the river, we bathed in it every day and it ran all the way to the ocean; then they started damming it up and I can tell you again, I do not know what happened to the water in Honokōwai, but it was a river at one time with wet taro patches and not only ours but others that planted ages ago. 'Ekolu is probably maintaining those on MCL and it was not dry land taro, thank you.

Mr. 'Ekolu Lindsey (Maui Cultural Lands) – my dad started the work in Honokōwai Valley along with Lucienne and several others and share that Honokōwai as one of the heaviest concentrated archaeological sites. The act was made in '99 to protect and preserve these sites. After Dad's passing it passed to me to continue on and I've been doing it for the past 10-years now. We have thousands of people that have come through, the water has been non-existent. I thank you for your question on "low hanging fruit" and I was surprised that Amalu Stream was a low hanging fruit. Which gives hope that we can open that up and provide at least 1 mgd given we would be able to reopen some of the existing 'auwai systems that exists in that space. It's difficult to really see what that water looks like when you say 1.2 mgd of water being released, I have no idea what that looks like, so when I look at these numbers, I need pictures to show me what 2 mgd or 500,000 gpd looks like in the streams; 1 million sounds pretty good, even if I'm losing reach if I get 50% is 500,000; I open an acre of lo'i that's 200,000 gpd necessary to produce the taro. Early on when my

parents were doing the work I was curious and think why they're working someone else's yard pulling weeds, etc.; and what happened after my dad passed was my "a-ha moment" when students went up there and did a memorial service and talked about things they learned about building lo'i, rock walls, plants for medicine, and the history and culture. Honokōwai Valley is the foundation for the future to learn why these things are important. Without these cultural resources in place, students have a difficult time to find the opportunities that exist with wahi pana that they can learn how to take care these resources. Regardless of race, we need everybody to participate and understand the importance of water. I've had many great conversations sitting in the dry stream bed with many kids from all over the world as to where the water went and what happens if/when the stream returns. Thank you for the low hanging fruit of Amalu stream and like to stress that case, something to break that down and allow water flowing; thank you very much.

Commissioner Hannahs – 'Ekolu, we need to mahalo your family for doing what they've done all this time and for the care. When the water goes back (don't know if you know the experience of Kahoma) it may look better in 2-3 years and will take some time to get that water back.

Mr. Pellegrino – there's a lot of people in this room that have set the path I'm on today. First and foremost, I have to acknowledge Uncle Ed because I wouldn't be doing what I do today in my former capacity working at KS and now to get the job I'm in. That job led me immediately in April 2008 to be reacquainted with Uncle Ed Lindsey and at that time my position at KS was Cultural Resources Coordinator to create programs for Native Hawaiian students that did not attend KS and these programs were Ho'olauna, Kūlia I Ka Pono, Ipu Kukui, Ho'omaka'ika'i which are still active today. With the development of the Ho'olauna program we brought over 40-60 students weekly for six weeks, over the course of six years into Honokōwai. Starting out the day would be and 'oli with Aunt Pua and Uncle Ed ('Ekolu's mom/dad) before we entered that valley, as you walk through the dry land forest you would see the wiliwili, 'ohe and 'a'ali'i and many other endemic species and still to this date is one of the most intact traditional archaeological sites on Maui; there might be a few other places like 'Ala'ele, Kipahulu, and Kahoma but on the west side most of these historical valleys have been altered because of plantations. Honokōwai and Honokōhau and a few others remain intact. In 2008, I was blown away by how much work was being conducted in there, the engagement the Lindsey 'ohana had with the haumāna. I have a student that was in the first Ho'olauna in 2008 and is now a second year law student at UH. Another is an immersion Kindergarten teacher at Lāhaina and these students had the opportunity to learn/work at Honokōwai with the Lindsey family. This is the type of learning engaged from there and focused on replenishing that 'āina without water. 'Ekolu showed me that 10+ years ago of what that area looked like (it was an early 1900 map) and each of the lo'i kalo in that area were abundant; along with maps of Honokōhau still show the same. There were 100's of lo'i kalo in the valley. I cannot imagine our kupuna would have massive extensive traditional agriculture systems if there was no water there all year long. I'm curious what the Q90 figures are above the diversions but water restored to that valley, I can tell you ('Ekolu), 1 mgd is not very much but if that's something we need to start with I absolutely support restoration, and know what has occurred in streams like Kaua'ula, Kahoma, Olowalu and Ukumehame in that particular region of West Maui, it takes time for the water to replenish into the ground water aquifer for the streams to recharge. Whatever highest the amount that can be restored, Hui O Nā Wai 'Ehā would

support that but know the 1 million gallons can take a while before it has that mauka to makai connectivity. There may not be much native aquatic species, its hard to imagine that after the stream restored you wouldn't see them. I was told Wailuku Stream would never have 'o'opu, hīhīwai, 'ōpae in the stream, but three weeks ago I saw the largest 'o'opu I've ever experienced in Waikapu River I took video and pictures, it can happen. I want to mahalo again the efforts of the Commission and staff for putting the details together and support mauka to makai connectivity and IIFs that would benefit the streams and traditional and customary practices, mahalo.

Ms. Tiare Lawrence (Kamalu O Kahalawai) – in Honokōwai River – when we first started to fight and advocate for the water restored, many said it will be an intermittent stream and we wondered why would our kupuna build these pa pohaku, so I mahalo Wolford making that statement. It took us 5 years to get mauka to makai connectivity, there were areas in the stream the water would disappear and appear somewhere else. Finally, we started getting connectivity and the stream saturation gets better and better every year. The temperature gets colder so I wanted share that, if there's any doubt that life would return, Kahoma is a prime example. In regards to the IIFS, I want to mahalo the staff for working so hard doing all the research; Ayron and the staff have been great in talking to the community. I whole heartedly support IIFS and urge the Commission not to delay this process. I know there's conversations happening with the resorts in development arena on the west side about trying to delay this, but I think we waited long enough for this process, so I urge Commission for follow through. I want to bring up the fact that Ka'anapali Land Management do not have an RP (revocable permit) or a lease with the State to divert water and is the same for West Maui Land Company and wanted to bring that to the table in hopes that this is an issue that can be brought to BLNR and they should be held to the same standards as A&B or any other corporation in completing an EIS (environmental impact statement) and securing an RP or lease. Also, I believe the IIFS would help enforce the resorts to upgrading infrastructure as mentioned earlier by Ayron there's salt water intrusion. Because it's private land the County can't go in to enforce so I think the IIFS would help enforce use of R1 water in the future and I don't think it can be completed until these mandates are completed sooner than later, mahalo.

Ms. Cecilia Rose Riley – its news to me that the Wastewater treatment plant was upgraded, it smells all the time and its over run by all the water coming in from the new developments. Not only right in front of there but all the way down to the shore. I'm not sure if you can help stop development until that's sorted out, but as far as the re-treated water would be awesome; but these gentlemen estates are not growing anything or agriculture, it's a bunch of mansions with their landscaping; it's not like the water is being diverted for pono things, but causes a lot of waste.

Mr. John Duey – the Commission was here 15 years ago NāWai 'Ehā filed petition regarding the IIFS June 25, 2004; took us a little over 10 years to get water restored to NāWai 'Ehā streams. I want to compliment staff and Commissioners for moving forward in the last few years. The only one here when we started this is Dean. It took us so long and we fought all the way to the Hawai'i State Supreme Court and won; now it's moving really fast (West Maui) and I'm happy to see it moving forward, thank you.

Chair Case – thank you very much to staff that was very helpful Ayron and Dean; it was a good base for future work use.

## **2. Briefing on Hawai'i Water Audit Validation Effort**

PRESENTATION GIVEN BY: Neal Fujii

Mr. Fujii – gave a power point presentation and provided an overview of the program, updates and results. Act 169 helps to implement the Commission's Water Conservation Plan (2013); Act 169 authorizes \$600,000 of federal and \$100,000 in private funding; affects 100 public water systems; legislation divides validation into two phases; Hawaii W.A.V.E. is a Water Audit Training and Technical Assistance program implemented in 4-WAVEs which are: outreach and intro workshops; follow-up conference calls; intermediate workshops; follow-up conference calls. Good data and information is the foundation of the AWWA audits; it was noted that going through the process revealed the data compilation challenges that utilities face because they need data from all different divisions and departments. Briefed on the two types of water losses: real loss (physical leaks) and apparent loss (theft, customer meter or data handling errors). Phase 1 of County-owned Public Water Systems is completed and Wave 2 of Phase 2 (large-capacity public water systems and those within water management areas) is almost completed. There are common opportunities for real and apparent loss recovery with county-owned PWS. There are lessons and challenges derived from Phase 1 and 2 and also opportunities for project implementation.

### **DISCUSSION**

Commissioner Katayama – what's the billed unmetered consumption?

Mr. Fujii – a flat rate; example is a community with no meters and they are charged a flat fee monthly for unlimited amount of use; it's pretty uncommon but it happens.

Commissioner Katayama – not here in Hawai'i?

Mr. Fujii – no

Commissioner Meyer – I think there's some untreated ag water consumption situation services provided like that on a flat rate, but mostly are metered as well.

Commissioner Katayama – is the 9/10 a standard split or a good system?

Mr. Fujii – that's just for demonstration purposes. It varies system to system and there's no ideal goal.

Commissioner Katayama – where's the tipping point where it's a red light from what you seen of the water audit?

Mr. Fujii – not sure but it depends on economics and your system; how much it cost to run it, how much water produced, how much water your sell, and operational costs. It's complicated and some systems can do fine financially and some if there losing a small amount of water, they're losing money.

Mr. Kawaoka – those proportions are theoretical and not actual correct?

Mr. Fujii – it might be actual in some cases, but this is just for demonstration.

Commissioner Katayama – the real value is looking at SY by these water systems and to some extent your revenue base is pushing up against that. You have to look at what your opportunity cost is in improving the system efficiency, that's the real reason why you're doing this right?

Mr. Fujii – I think it benefits both utility from that standpoint as far as the bottom line goes, and from the resource management, our job is to make sure that folks are utilizing more in a most efficient way.

Commissioner Katayama – to support the sustainable growth you need to have the ability to support that population.

Commissioner Hannahs – what's the total water supply?

Mr. Fujii – a little over 200 mgd

Chair Case – how do you tell whether it's a real or apparent loss?

Mr. Fujii – it's a process of deduction; example: we start with the water supply, say your utility has two wells (all the water into that system in a year), then they look at authorized consumption (your billed meter, customer meter); water supply minus authorized consumption you get the water loss and within that, it can be further broken down to apparent losses. Under unauthorized consumption in the water losses part of the table, under customer metering inaccuracies, you will have the amount, which most times is estimated. By knowing your water loss and estimating your apparent loss is when you come out with the real loss.

Chair Case – if your meter is inaccurate, you don't necessarily know that you have mess ups with data handling and if you have unauthorized consumption, you wouldn't know.

Mr. Fujii – you're right, there's a lot of estimation going on and the key is meter accuracy. Source meters and customer metering, if they are not accurate everything starts uncertain, so everything depends on the quality of data; its not great, but it's a starting point.

Chair Case – of the water you evaluated, what percentage is this of the total amount?

Mr. Fujii – it varies from 10% to 40-50%, depending on the system. Of 35 systems it varies a lot and we're trying to get away from percentage because there's so many variables that go into it; and what's an acceptable loss? Percentage is easy to relate to but there's other

components in the computer (AWWA software) that normalize it to different factors in the system, but it ranges a lot and its really (depends on) how good the data is as well.

Chair Case – what's CMI?

Mr. Fujii – Customer Metering Inaccuracy; there's also an estimate on how accurate the customers meters are. No one really tests, there's no proactive meter testing.

Mr. Kawaoka – these representing counties these four (bar graphs)?

Mr. Fujii – yes, the four Counties; Kaua'i, Honolulu, Big Island and Maui

Commissioner Hannahs – why is military getting a pass? They're accessing a public trust asset.

Mr. Fujii – I believe the way the act was written, there's no punitive provisions or actions in there. We reached out to Navy, Army and Marine Corps, in which they run their systems. We got initial participation with Marine and Army at the workshops and none after.

Commissioner Hannahs – maybe need to go through Congressional delegation?

Mr. Fujii – its not for lack of trying, but it's something we're taking a look at.

Deputy Manuel – Navy is (besides BWS) the largest water user on O'ahu. This is important for data purposes for us and we can use it to increase or better our relationship with them.

Commissioner Hannahs – also if the word audit is off-putting, we could use another word or acronym.

Mr. Kawaoka – is that nation-wide they're not participating?

Mr. Fujii – there's California and Georgia that are requiring.

Commissioner Katayama – with California there's a lot of pressure on water use, they probably don't have a choice.

Mr. Kawaoka – you should check with other states, and please let me know.

Mr. Fujii – yes, I'll check on it and it is a concern; I'll work with Deputy Manuel to push that along.

Chair Case – is this prior to the Fresh Water Initiative rules is this one of the Water Audit Validation?

Mr. Fujii – yes, the Fresh Water Initiative, Fresh Water Council Act 169 was a result of their initiatives. CWRM also worked closely with DOH to secure funding; the CWRM Water Conservation Plan, there's two priority implementations and this is one of them, the Water Audit.

Commissioner Hannahs – you can call your four W.A.V.E.S. – Stakeholder Education Training – S.E.T.

Commissioner Meyer – I think it's a great program and would do good for the people of Hawai'i by stopping waste, not just on dollars but conserving the natural resource; and improve quality of water too.

Mr. Fujii – yes, agree and we're only in the beginning and from hearing from other states doing this, it takes about 2-3 years for the utilities to start getting meaningful audits with good data and from that point, they can start actually address some of the issues and is an on-going process so we hope to achieve some of water loss savings as we move ahead in the coming years.

Deputy Manuel – these are all really good metrics that are measurable so you can test the efficiency of this program versus other programs. We have a base line and then try to measure whether we're getting our bang for our buck. This is a good program that we can start to evaluate.

**D. NEXT COMMISSION MEETINGS (TENTATIVE)**

September 17, 2019 (TUESDAY)

October 15, 2019 (TUESDAY)

This meeting was adjourned at 12:57 pm.

Respectfully submitted,

*Rae Ann Hyatt*

RAE ANN HYATT  
Secretary

OLA I KA WAI:

*M. KALEO MANUEL*

M. KALEO MANUEL  
Deputy Director